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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David Falconer

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SMART & BIGGAR

P.O. BOX 2999, STATION D
900-55 METCALFE STREET
OTTAWA, ON K1P5Y6
CANADA

EXAMINER

WENDELL, ANDREW

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,009	Applicant(s) FALCONER ET AL.	
	Examiner Andrew Wendell	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 7, 10-11, 13-15, 17, 19, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yarkosky (US Pat# 6,895,218).

Regarding claim 1, Yarkosky's in-building distribution using wireless access technology teaches a partner relay system (Fig. 1) comprising a first relay 2 (Fig. 1) adapted to receive a first signal on a first wireless transmission resource 102 (Fig. 3), perform a first signal translation on the first signal to a second transmission resource 104 (Fig. 3), and re-transmit the first signal on the second wireless transmission resource 106 (Fig. 3); a second relay 12 (Fig. 1) in a spaced arrangement from the first relay adapted to receive the first signal on the second wireless transmission resource from the first relay 108 (Fig. 3), perform a second signal translation 110 (Fig. 3) to re-translate the first signal to the first wireless transmission resource, and re-transmit the first signal 112 (Fig. 3).

Regarding claim 2, Yarkosky teaches wherein each signal translation is an analog translation (Fig. 3).

Regarding claim 3, Yarkosky teaches wherein each signal translation is a frequency translation (Fig. 3).

Regarding claim 7, Yarkosky teaches wherein the first signal is transmitted by the base station 100 (Fig. 3), and the second relay re-transmits the first signal for reception by the wireless station 110-114 (Fig. 3).

Regarding claim 10, Yarkosky teaches wherein the first relay 2 (Fig. 1) comprises a first antenna 50 (Fig. 2) for communicating with the cellular communications system, and a second directional antenna 66 (Fig. 2) for communicating with the second relay 12 (Fig. 1), and wherein the second relay comprises a third directional antenna for communicating with the first relay 108 (Fig. 3), and a fourth antenna for communicating with the wireless station 112 (Fig. 3).

Regarding claim 11, Yarkosky teaches the second relay is further adapted to receive a second signal on a third wireless transmission resource 152 (Fig. 4), perform a third signal translation to translate the second signal to a fourth wireless transmission resource 154 (Fig. 4) and re-transmit the second signal 156 (Fig. 4); the first relay is further adapted to receive the second signal on the fourth wireless transmission resource from the second relay 158 (Fig. 4), perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource 160 (Fig. 4), and re-transmit the second signal 162 (Fig. 4).

Regarding claim 13, Yarkosky teaches relaying signals between a first transceiver 8 (Fig. 1 and Figs. 3-4) and a second transceiver 2 (Fig. 1 and Figs. 3-4) and relaying signals between first transceiver and a third transceiver 12 (Fig. 1);

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wherein the first signal is from the first transceiver 100 (Fig. 3) to the second transceiver and is relayed via the first relay 100 (Fig. 3) and then the second relay, the second signal 162 (Fig. 4) is from the second transceiver to the first transceiver is relayed via the second relay and then the first relay; wherein a third signal 106 (Fig. 3) from the first transceiver to the third transceiver is relayed via the second relay and then the first relay (Figs. 3-4), and a fourth signal 156 (Fig. 4) from the third transceiver to the first transceiver is relayed via the first relay and then the second relay (Figs. 3-4); wherein each signal transmitted between the first relay and the second relay is subject to signal translation prior to transmission by one of the relays and signal translation after reception by the other of the two relays (Figs. 3-4).

Regarding claim 14, Yarkosky teaches wherein the first and second signals are transmitted and relayed during first time slots, and the third and fourth signals are transmitted and relayed during second time slots "TDMA" (Col. 3 lines 37-42).

Regarding claim 15, Yarkosky teaches wherein the first wireless transmission resource is at least part of a first frequency band, the second wireless transmission resource is at least part of a second frequency band, the third wireless transmission resource is at least part of a third frequency band, and the fourth wireless transmission resource is at least part of a fourth frequency band (Figs. 3-4).

Regarding claim 17, Yarkosky teaches a base station 8 (Fig. 1) and the second 2 (Fig. 1) and third transceivers 12 (Fig. 1) are wireless stations.

Regarding claim 19, Yarkosky teaches a third relay 362 (Fig. 8) adapted to receive a second signal on a third wireless transmission resource, perform a third

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signal translation to translate the second signal to a fourth wireless transmission resource and re-transmit the second signal; a fourth relay 366 (Fig. 8) further adapted to receive the second signal on the fourth wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource, and re-transmit the second signal.

Regarding claim 21, a third relay 362 (Fig. 8) adapted to receive a second signal on the second wireless transmission resource, perform a third signal translation to translate the second signal to the first wireless transmission resource and re-transmit the second signal (Col. 8 lines 13-18); a fourth relay 366 (Fig. 8) adapted to receive the second signal on the first wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the second wireless transmission resource, and re-transmit the second signal.

Regarding claim 22, method claim 22 is rejected for the same reasons as system claim 1 since the recited elements would perform the claimed steps.

Regarding claim 23, method claim 23 is rejected for the same reasons as system claim 19 since the recited elements would perform the claimed steps.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 4-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Talaie et al. (US Pat# 6,985,716).

Regarding claim 4, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky fails to teach a CDMA signal.

Talaie's radio signal broadcast system teaches a first signal is a CDMA signal (Col. 2 lines 34-43 and Col. 6 lines 55-61).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a CDMA signal as taught by Talaie into Yarkosky's in-building distribution using wireless access technology in order to increase capacity (Col. 3 lines 59-67).

Regarding claim 5, the combination including Talaie teaches wherein the first wireless transmission resource comprises a first forward link channel on a first carrier frequency, and the second wireless transmission resource comprises a second forward link channel on a second carrier frequency (Col. 2 lines 34-43).

Regarding claim 6, the combination including Talaie teaches wherein the first signal on the first wireless transmission resource comprises a CDMA signal on a first carrier frequency, and the first signal on the second wireless transmission resource comprises a CDMA signal on a second carrier frequency (Col. 2 lines 34-43 and Col. 6 lines 55-61).

Regarding claim 12, the combination including Talaie teaches a first forward link channel on a first carrier frequency, and the second wireless transmission resource comprises a second forward link channel on a second carrier frequency (Col. 2 lines

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34-43), and the third wireless transmission resource comprises a first reverse link channel on the first carrier frequency, and the fourth wireless transmission resource comprises a second reverse link channel on the second carrier frequency (Col. 2 lines 34-43, the same can be done for receiving as for transmission).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Fuerter (US Pat# 6,125,109).

Regarding claim 8, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky fails to teach a reverse link channel.

Fuerter's delay combiner system for CDMA repeaters teaches a second wireless transmission resource comprises a reverse link channel on the first carrier frequency (Col. 11 lines 26-29).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a reverse link channel as taught by Fuerter into Yarkosky's in-building distribution using wireless access technology in order to improve diversity (Col. 2 lines 15-21).

5. Claims 9, 18, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Tirabassi et al. (US Pat# 6,400,925).

Regarding claim 9, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky teaches FDMA and TDMA (Col. 3 lines 29-42) which is similar to TDM or FDM. However, Yarkosky fails to teach TDM/FDM resource.

Tirabassi's packet switch control with layered software teaches wherein the first wireless transmission resource comprises a combined TDM/FDM resource (Col. 5 lines 1-21).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate TDM/FDM resource as taught by Tirabassi into Yarkosky's in-building distribution using wireless access technology in order to meet performance requirements (Col. 2 lines 30-39).

Regarding claim 18, Yarkosky teaches the limitations in claims 1 and 11.

Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

Regarding claim 20, Yarkosky teaches the limitations in claims 1 and 19.

Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Remy (US Pat Pub# 2004/0033796).

Regarding claim 16, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claims 1, 11, and 13. Yarkosky fails to teach one GSM channel.

Remy's locating a mobile terminal teaches at least one GSM channel (Section 0073).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate at least one

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GSM channel as taught by Remy into Yarkosky's in-building distribution using wireless access technology in order to reduce cost (Section 0022).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Wendell

Andrew Wendell
Examiner
Art Unit 2618

10/26/2006

Quochien B. Vuong

10/30/06

QUOCHIE B. VUONG
PRIMARY EXAMINER